

PILOT-AIDED CHANNEL ESTIMATION FOR OFDM IN WIRELESS SYSTEMS

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ABSTRACT

A method and apparatus for pilot-symbol aided channel estimation in a wireless digital communication system which transmits packets of N OFDM data blocks, each data block comprising a set of K orthogonal carrier frequencies. At the transmitter, pilot symbols
10 are inserted into each data packet at known positions so as to occupy predetermined positions in the time-frequency space. At the receiver, the received signal is subject to a two-dimensional inverse Fourier transform, two-dimensional filtering and a two-dimensional Fourier transform to recover the pilot symbols so as to estimate the channel response.

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